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CHANGES AND ADAPTATIONS IN SOUTH DAKOTA
SCHOOL LUNCH PROGRAMS FOLLOWING REDUCED FEDERAL FUNDING

BY

VERDELL EVONNE BESTE

A thesis submitted
in partial fulfillment of the requirements for the
degree Master of Science
Major in Home Economics
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1982

CHANGES AND ADAPTATIONS IN SOUTH DAKOTA
SCHOOL LUNCH PROGRAMS FOLLOWING REDUCED FEDERAL FUNDING

This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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VEB

CHANGES AND ADAPTATIONS IN SOUTH DAKOTA
SCHOOL LUNCH PROGRAMS FOLLOWING REDUCED FEDERAL FUNDING

Abstract

VERDELL EVONNE BESTE

The purpose of the study was to document changes and adaptations occurring in South Dakota School Lunch Programs following decreased federal funding. A survey was administered to 152 school food service workers, representing 72 school districts, during the 1982 School Food Service Certification Workshop at South Dakota State University in Brookings, South Dakota. Demographic as well as lunch program information was obtained from the multiple choice and/or open-end question survey.

Findings indicated lower participation in programs charging higher lunch prices. Schools serving over 500 noon lunches daily were more likely to use one or more methods to increase participation. Methods to increase participation included involving students in planning menus, using promotional techniques, promoting positive public relations, varying menus and serving best liked menus. The Chi Square analysis showed no significant relationship between using methods to increase

participation and an actual increase in participation. No significant relationship was found between specific methods used to increase participation and success in raising participation. An assumption can be made that qualitative and quantitative independent variables, not obtained through the survey, affect the potential success of the school lunch program in South Dakota.

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CHAPTER 1

Introduction

Since 1946, when President Truman signed the National School Lunch Act, the number of students participating in the school lunch program has risen from 4.5 million to approximately 27 million (Goodman, E., 1981). However, during the year 1981-82, three million children throughout the country stopped buying school lunches. The drop in participation was the first recorded since the founding of the program in 1946 ("High Prices," 1982). According to Dan Wisotzkey ("High Prices," 1982), chairman of the American School Food Service Association (ASFSA), the decrease in participation can be attributed to cuts in federal food subsidies.

The national school lunch program was formed in 1946 to improve the health of the nation's children and to utilize farm surpluses. South Dakota schools have received federal funding from three parts of the School Lunch Act: (1) Section 4, (2) Section 11, and (3) Section 6.

(1) Section 4 is the General Reimbursement Fund and provides money for the paying child in the program.

This fund was reduced from \$0.16 in January, 1981, to \$0.1050 in September, 1981 (Davis, 1982).

(2) Section 11, the Special Reimbursement Fund, provides additional funding for reduced and free student meals. In 1981-82, the reduced student fund stayed the same while the free student fund increased slightly (Levison, 1982).

(3) Section 6, commodity distribution, providing funding for all children who participate in a school lunch program, was reduced to \$0.11 per child in fiscal year 1981-82 (Levison, 1982). In fiscal year 1981-82, South Dakota received \$1,934,541 through Section 6. For 1981-82, the amount was reduced to \$1,674,437 for a net loss of \$260,104 to the South Dakota School Lunch Program. The loss resulted in an approximate five percent reduction of funds to schools in South Dakota. In turn, many schools participating in the program increased prices or were forced to change or discontinue the school lunch program in their school district.

Statement of the Problem

The National School Lunch Program was set up after the discovery of malnutrition among new World War II recruits. Since 1946, the school lunch programs have been successful in lowering malnutrition in the nation.

Approximately 13 million children get free or reduced lunches (Goodman, E., 1981). For many children the school lunch is the only nutritionally well-balanced meal of the day. Malnourishment is a national concern. Problems associated with malnourished people include distraction from learning, decreased production, and increased diet-related medical ailments. All of these conditions place an additional burden on society because many of the malnourished individuals are from low income families who rely on federal assistance for living expenses. Because the United States is the richest and best educated nation in the world, some believe that the nations' conscience should not allow millions of people to receive an inadequate diet (Applebaum, 1982b).

The South Dakota Child and Adult Nutrition Services, the agency which supervises the school lunch program in South Dakota, reported a ten percent decrease in school lunch participation during the 1981-82 school year. The purpose of this study was to document changes occurring in school lunch programs in South Dakota after a substantial decrease in federal funding. Specific questions to be answered through the study were:

1. What kinds of changes occurred after the decreases in federal funding?
2. Were methods used to cope with decreased

funding related to specific characteristics of the schools?

Definition of Terms

Throughout the paper, the following definitions of terms and abbreviations will apply.

American School Food Service Association (ASFSA):

A non-profit association of people responsible for planning, preparing and serving school meals ("Washington Update," 1982).

Commodity: Surplus agricultural foodstuffs purchased and distributed to schools by the United States Department of Agriculture (Martin, 1975).

Lunch: A meal which meets the meal pattern for specified age groups of children as designated in the National School Lunch Program Act, Section 10 ("National School Lunch," 1977).

National School Lunch Program (NSLP): The program under which general cash-for-food assistance and special cash assistance are made available to schools.

Recommended Dietary Allowances (RDA): "The recommended daily levels of various nutrients as determined by the Food and Nutrition Board of the National Academy of Sciences" (Carpenter, 1981, p. 18). These allowances cover the needs of about 98 percent of healthy people living in the United States.

School Food Service Certification Workshop: A one-week instructional workshop annually held at South Dakota State University to update and increase school food service employees' knowledge and skills in nutrition education.

Type A Lunch: A national denotement for nutritional standards that must be met by students participating in the National School Lunch Act. According to the Act, a school lunch should provide at least one-third of a child's daily food needs (Martin, 1975).

Women, Infants, and Children (WIC): A federally subsidized food program included and expanded in the Child Nutrition Amendments of 1978. The purpose is to make child nutrition programs more responsive to the nutritional needs of children ("U.S. Congress," 1978).

CHAPTER 2

Review of Literature

The purpose of the study was to document changes and adaptations which occurred in South Dakota school lunch programs following a decrease in federal funding. A history of the National School Lunch Program (NSLP) will be described in the first portion of the literature review. The expansion of the school lunch program will be noted along with innovations used by school districts during the 1970's and 1980's. The commodity program and alternatives to commodities will be discussed. Vending machines and other options available to students will be detailed in the final portion of the review of literature.

History of School Lunch

Serving meals to students dates back to 1853 and the Children's Aid Society of New York. Several books written during the mid-1800's stressed the hunger and poor nutrition which existed in the United States. In The Bitter Cry of the Children (Spargo, 1906) and in Poverty (Hunter, 1904) people were urged to realize the relationship of a well-nourished child to ability to do expected

school work.

In early school lunch programs, meals were served primarily by volunteer workers. Neither the lunchroom nor the menu of the early 1900's resembled those of the 1980's. A typical early lunchroom consisted of a small area underneath a stairway and the daily menu included soup, sandwich, beans, and ice cream. In Pinellas County, Florida, in 1918, one health official realized the importance of milk in the diet and placed a large white cow on the playground as a method of advertising (Anderson, 1977).

Concern for nourishing noon meals for school children was evident in South Dakota as early as the 1920's:

Credit for establishment of the hot lunch program should be given to Mrs. Pierce, who realized the students would be better nourished and there-by do better work if a hot dish were added to the noon meal. At first we brought soup or cocoa in pint jars, and placed them in the hot water pan a half hour or so before noon. Then it was decided to use the east cloak room for a kitchen. Accordingly, a two-burner oil stove was purchased, and a small cupboard built to accommodate the necessary dishes for hot

lunches. I can well remember those white enameled serving bowls we used, and especially the delicious mashed potatoes the Newsam girls knew how to make. When it became my turn to cook the pupils usually were served cocoa or lumpy cornstarch pudding. Our family had milk to spare, more than any other commodity. We butchered an old cow one year, and shared some of the meat for school lunches. It was tough but probably nourishing. But what a chore to have to spend the remainder of the noon hour washing dishes, while everyone else was outside playing dare-base (Anderson, 1977, p. 114).

The first federal funds for school lunch came from the Reconstruction Finance Corporation in 1932. By 1943, 39 states were receiving federal funds. Due to the depression, there was high unemployment and inadequate money for food buying. In 1936, the 74th Congress passed an aid bill authorizing the buying of foods for use in school lunch programs (Van Egmond, 1974).

World War II temporarily halted the school lunch program, but by the end of the war, the importance of good nutrition was again stressed to the legislature. In

June, 1946, President Truman signed the National School Lunch Act, Public Law 396. The purpose of the law was stated in Section 2.

It is hereby declared to be the policy of Congress, as a measure of national security to safeguard the health and well-being of the Nation's children and to encourage the domestic consumption of nutritious agricultural commodities and other food, by assisting States, through grants-in-aid and other facilities for the establishment, maintenance, operation, and expansion of nonprofit school lunch programs (Van Egmond, 1974, p. 8).

The second purpose of Public Law 396 was to provide markets for agricultural products and increase profits to farmers. The school lunch program was an ideal place for farmers to dispose of surplus agricultural products. In 1946, the United States Department of Agriculture defined three types of lunches -- Type A, Type B, and Type C. A Type A lunch consisted of one-half pint fluid whole milk, a protein rich food (two ounces meat, two ounces cheese or one egg), three-fourths cups of two or more fruits and vegetables, one portion of whole grain or enriched flour product, and two teaspoons butter or fortified margarine. A Type B lunch consisted of smaller

quantities of Type A lunch served in inadequate facilities. A Type C lunch consisted of one-half pint of fluid whole milk only (Van Egmond, 1974).

The 1950's brought food service from the basement to the first floor. Food service employees were still considered 'little old ladies in tennis shoes', but there was a movement toward more confident professionals. School food service began to use frozen foods during this era (Applebaum, 1982a).

Television documentaries and news media helped to increase the awareness of the presence of hunger in America during the 1960's. The War on Poverty brought an awareness of poverty, including hunger and other food problems. The Economic Opportunity Act of 1964 established the Head Start Program. The Elementary and Secondary Education Act of 1965 set aside funds for use in school lunch programs in low-income districts. The Child Nutrition Act of 1966 continued the Special Milk Program and provided for a pilot breakfast program. In 1969, a free lunch program was partially funded, the aim being to increase the nutritional status of poor American children (Applebaum, 1982a).

The 1970's proved to be a very eventful decade for the school lunch program. Congress voted to fully fund

the free lunch program, thereby dramatically increasing student participation. The free lunch program was available to any qualifying children, providing there was an assurance of no discrimination (Martin, 1975).

In 1976, under the Carter administration, stronger support was given to school lunch programs. Funds became available for more free and reduced-priced meals for preschoolers and the poor. During this era, special funding assistance on the basis of need increased and nutritional training for food service workers was strengthened.

With the election of Ronald Reagan to the Presidency in November, 1980, came promises to eliminate waste, fraud and abuse. Plans were made to discontinue subsidies for the paying child participating in the school lunch program. Though some budget cuts were made, they were not as severe as initially anticipated. Even so, by the beginning of the 1981-82 school year, approximately 400 schools in the nation had withdrawn from the NSLP. The equipment assistance program which began in 1962 was eliminated, the special milk program was eliminated, and funding for nutrition education and training was curtailed (Applebaum, 1982b).

The role of the Food and Nutrition Service, the agency through which the NSLP is administered, is to elevate the nutritional status of low-income children

(Oglesby, 1980). Results from a Nationwide Food Consumption Survey (Kerr, 1982) documented the role of the school lunch program in improving the quality of foods consumed at noon by all students participating in the National School Lunch Program. The survey was done in 48 states during 1977-78. A 24-hour dietary recall was used to analyze the nutritonal contribution made by the school lunch program. Results indicated that students participating in the National School Lunch Program consumed more meat, milk, grains, fruits, and vegetables than did non-participants. Non-participants consumed more soft drinks and punches.

Lunches of NSLP participants averaged 28 to 44 percent of Recommended Dietary Allowances (RDA) for calories and four nutrients (calcium, iron, magnesium, and Vitamin B₆). Lunches of non-participants averaged 16 to 24 percent of RDA for the same nutrients (Kerr, 1982, p. 1).

Data from this survey indicated that the National School Lunch Program lunches contributed significantly to nutrient intakes of students on school days.

National School Lunch Program Funding

Through the NSLP, funds are provided to the states from the federal government and are used in schools in three ways (Agran, 1967):

1. General food assistance,
2. Special food assistance, and
3. Non-food assistance.

Under the general food assistance program certain food items are available to all schools participating in the NSLP. Special food assistance is given to extra needy schools based on the number of free and reduced lunches served. These funds are appropriated by Congress. The Department of Agriculture also urges state agencies to secure additional assistance for needy schools. Non-food assistance includes funding equipment used by schools in storing, preparing, or serving food. Non-food assistance is available to any needy school requesting it.

The decision on school participation in the NSLP is by local choice. Agran (1967) suggests one reason schools many choose not to participate is lack of facilities, a frequent characteristic of schools located in core areas of cities. In many cases these schools are in the ghettos, places where a school lunch program would be most beneficial. Other schools prefer to omit the massive amount of paperwork associated with the NSLP, and instead

operate a local, self-supporting food service. In some schools, the hot lunch program has been discontinued partially due to financial problems. Martin (1975) suggests that the building principal is the single most influential factor determining pupil participation in the school lunch program.

Expansion of School Food Service

Since its inception in 1946, the National School Lunch Act has had numerous additions and deletions. The pilot breakfast program, established in 1966, added a meal before school in poor areas where children traveled a distance to reach schools. By 1972, all schools were eligible to apply. Approximately 70 percent of the students who ate breakfasts were on reduced or free priced meal status. The program met with some resistance because administrators felt that breakfast was a parental responsibility. Other problems included inadequate funding, lack of operational guidelines, scheduling of breakfast and the uncertainty of future programs (Van Egmond, 1974). According to the Child Nutrition Act of 1966, the breakfast pattern set as a minimum was: one-half pint fluid whole milk, one-half cup fruit or fruit or vegetable juice, one slice whole grain or enriched bread or an equivalent or three-fourths cup serving of

whole-grain enriched or fortified cereal. A protein-rich food is recommended as often as practical. Some states have elected to make the protein a requirement.

In 1975, only 14,000 schools of the 88,000 participating in the NSLP were also participating in the breakfast program (Greenstein, 1975). Once the district approves, the only procedure which must be followed to qualify for the breakfast program is a request by the school to participate.

The Child Nutrition Amendments of 1978 extended and expanded certain child nutrition programs under the NSLP and the Child Nutrition Act of 1966. The major thrust of the 1978 Amendments was to provide initiative for program expansion. The Women, Infants, and Children (WIC), the child care food program, and the school breakfast program were expanded ("U.S. Congress," 1978).

In 1982, breakfast programs took on a new look. A food service director in a Bartow County, Georgia, school began a "breakfast bar" in the spring of 1982. Several different kinds of juice, hot or cold cereal, and a choice of meat were included (Zumsteg, 1982). Soup was a popular choice for breakfast in certain areas of the nation, including Downers Grove, Illinois. In Douglas, Wyoming, a student organization manages the breakfast snack bar as a method of raising funds. Elementary

schools in St. Louis, Missouri, served 99 percent of the elementary school breakfasts free, and 85 percent of breakfasts served at the high school level were free (Zumsteg, 1982).

Universal School Lunch Program

The Universal School Lunch Program was initiated in the 1960's by a segment of the leaders in the food service industry. The intent was to promote the removal of economic segregation from school food service by eliminating full and reduced price payments for school lunch. Instead, the school lunch would be available on an equal basis to all children participating in a federally supported program.

The official start of the Universal Lunch concept began in 1970 when Congressman Carl Perkins introduced a bill sponsoring the Universal School Lunch Program. The bill was defeated in 1970 and again in 1974 (Martin, 1975). Supporters of the Universal Lunch Program proposed it as a solution to the abundance of paperwork presently involved in school food service programs. They believed the amount saved in administrative costs would off-set the additional cost of the paying children.

Leaders from various agencies and organizations involved in school food service programs were surveyed

in 1972 on the controversial issue of a Universal School Lunch Program. One-third favored free lunches for all children regardless of family income, one-third favored free lunches to children from families below a marginal income, and the final one-third favored free lunches to children from families below the federal poverty level ("Food For All," 1973). Geographically, the Northeast and Midwest supported fewer restrictions on those qualifying for free lunches. The Southern Central and Northwest were most restrictive on eligibility for free lunches. Recent funding reductions in school lunch programs have reduced efforts for seeking passage of a Universal School Lunch Program bill.

The Commodity Controversy

A portion of the original school lunch act was written to provide farmers with a place to sell surplus agricultural products while at the same time supplying nutritious foods for school-aged children. The program was an ideal channel to reach millions of ill-fed children of the depression era. Today, food assistance activities have changed significantly through legislative, social, and economic developments. School food service is close to a \$3 billion a year industry. Three pieces of legislation presently specify the food purchases made for the

commodity program.

1. Section 32 of Public Law 74-320, enacted in 1935, under which an amount of money equal to 30 percent of the annual gross from duties collected under the United States customs laws is made available for a variety of purposes including so-called "surplus" (Lyng, 1972, p. 32).

2. Section 416 of the Agricultural Act of 1949, states that foods may be donated to the school lunch program to prevent waste of products.

3. Section 6 of the National School Lunch Act of 1946 as amended, provides funds to buy foods for distribution to schools and service institutions (Lyng, 1972). Every school participating in the NSLP is eligible to receive all foods made available under the above donation programs.

One problem encountered in the use of a commodity program is the lack of facilities and expense incurred with the conversion of donated foods into food products school-age children will eat. Numerous schools enter into a processing contract with a commercial firm to provide the finished products to students. The processor

uses the United States Department of Agriculture (USDA) donated food, such as grain, to make a product, such as white bread. The processor then deducts the cost of the grain and the school involved receives the finished product at a reduced price. Processing contracts are used for a variety of tasks, including transforming whole turkeys into ham, bologna, salami, and franks, and tomatoes into ketchup. Processing contracts have become increasingly popular. In Los Angeles, "The Affiliated Food Processors" company has been formed to specifically market products containing USDA donated commodities. Theoretically the company should free food service directors from the time-consuming tasks of searching for innovative uses for commodities, locating processors, developing processing agreements, and other details associated with the finished product (Goodman, C., 1981).

In April, 1981, a survey was conducted by a Blue Ribbon Study Committee of the ASFSA to compare wages and commodity utilization. The committee concluded that:

operations with higher labor costs, such as many major city schools, need food that helps minimize preparation time, not raw food straight off the farm (Goodman, C., 1981, p. 77).

Every school in the NSLP is entitled to use 11 cents worth of commodities in every meal served. To

encourage the use of surplus commodities, schools were given many bonus products in 1980 and 1981. These bonuses were for unlimited use and did not count toward the basic entitlement every school received (Goodman, C., 1981). Another type of encouragement is the consideration of ethnic and regional preferences in distribution of commodities. Southern states have priority for receiving pinto beans. The Jewish schools in New York received Kosher processed beef (Lyng, 1972).

Other problems associated with schools receiving commodities involve uncertainty at the local level of the quantity and type of food a school district might receive as well as how long it will take for food delivery. Some schools are experimenting with receiving cash in place of commodities (Goodman, C., 1981). Recent attempts to incorporate the cash alternative in the school lunch program, including the Goodling-Ford Commodity Allowance Program, have failed to pass in Congress. A credit system bill has been suggested as an alternative to the present commodity system. According to this system, the school would receive vouchers for a specific amount designated to a particular commodity. Most of the current bills are aimed toward the private sector eventually taking the responsibility for feeding school children (Goodman, C., 1981).

A three-year study is currently being conducted by the USDA to determine the feasibility of an alternate commodity program. Ninety schools in the nation are participating in the study, with 30 schools staying on the present system, 30 using cash only, and 30 working with letters of credit. Oldham, South Dakota, is one of the 30 schools participating in this survey, using cash in lieu of donated commodities. The study will end in 1984 (Oldham School, 1982). At its conclusion, an analysis will be conducted to determine the success of alternate commodity programs.

Innovations in School Lunch Programs

Following the passage of the Omnibus Reconciliation Act of 1981, thousands of school food service directors nationwide were forced to seek innovative techniques to maintain the school lunch program. Most school districts throughout the nation raised the price of reduced price lunches from 20 cents to 40 cents (Meyer, 1982). According to Fredrick (1977) the public believes that any increase in prices for school lunches and breakfast reduces student participation. Fredrick maintains that public feeling is inaccurate concerning teenagers, asserting that if they receive the food they want and the quality they expect, they are willing to pay a higher price.

A new regulation in 1982 on applications for reduced and free lunches, requires applicants to list the Social Security numbers of all adult family members (Appendix C). The new regulation has discouraged welfare mothers or illegal aliens from filling out the application. With fewer children receiving free and reduced lunches participating in the NSLP, many schools were forced to discontinue the program due to the increased costs of the program placed on the fewer number of paying children. The initial decrease in applicants for free and reduced meals in New York City for the Fall of 1982 was 45 percent (Meyer, 1982). Concern for the extreme decline caused city, county, and school officials to band together urging parents to comply with the regulation. Parents were called at home. The call was followed by a letter asking them to apply for reduced or free lunches. More than 500,000 flyers were printed and distributed throughout the schools. The New York system was committed to the belief that all children have a right to a nourishing lunch in school. As a result of their commitment, the participation rate decreased only two percent. The state of New York experienced a 10.5 percent overall decrease in participation compared with a national decrease of 13 percent (Meyer, 1982).

Outdoor Barbecues

School food service directors interested in maintaining successful school lunch programs selected barbecues as an innovative technique ("Barbecues Bring Students," 1981). In Seattle, Washington, "Senior Day" provided school lunch personnel with a challenge. Seniors requested a barbecue and it has become tradition in Seattle. Usually the menu consists of barbecued chicken or hamburger, potato salad, tossed salad, baked beans, watermelon or cookies with lemonade and milk. Participation doubles or triples each year on the day of the barbecue ("Barbecues Bring Students," 1981).

Potato and Salad Bar

Director of the food service, Frances McGlone, Oakland, California, firmly believes the potato bar and salad bar will be the salvation of the school food service programs. The potato bar is popular because it is easy to set up and can be prepared in advance (General Foods, 1982). Some schools have students add the topping while others do it for the student. In other areas a certain month is chosen as potato promotion month. The lunchroom is decorated by a "potato man," describing nutrients provided by potatoes. Potatoes are then

served every day of the month with no repeats in the way potatoes are prepared. Salad bars are gaining in popularity due to the ease in handling, simplicity of preparation, and limited amount of supervision required. Three elements are necessary for a successful salad bar: variety, education, and support. Variety means a frequent change of foods. Education pertains to the staff as well as the students. Education is necessary to achieve a smooth and efficiently run line. Support includes all personnel involved with promoting, planning, and participating in the salad bar. Positive factors associated with using the salad bar include less labor necessary, less wasted food, and a lunch period with less noise. Plaskett (1982) cites the salad bar as offering choice, responsibility, and flexibility.

A La Carte Lines

In Oakland, California, some a la carte programs account for more than 50 percent of the daily gross income (General Foods, 1982). Parents, students, and school personnel are apparently pleased with the direction a la carte menus have taken. A la carte programs must attract, then keep students. In many cases the a la carte line is in direct competition with the fast food restaurants.

In a Memphis City, Tennessee, school a buffet lunch was introduced in an elementary school and has received endorsement by teachers and administrators (Miller, 1981). The students were selecting new foods and as a result, plate waste was reduced.

The a la carte method provides students with the option of selecting foods with a wide caloric range, meeting a variety of individual needs. Additional funds for the school lunch programs are being generated by sales of popular foods from a la carte lines and snack bars. Research on schools that use snack items as a dessert for 'Type A' lunches revealed a 15 to 20 percent student participation increase (Wagner, 1982).

Additional Techniques

Fresno, California, found variety to be the solution to increasing student participation in its school lunch program (Eastman, 1982). School food service personnel tried upside down day with excellent student participation. The staff wore clothes upside down and served breakfast instead of lunch. This district's theory was that variety, to provide an outstanding meal, will result in an increase in over-all participation.

Yoder (1981) cites other school districts opting to celebrate National School Lunch Week by using special

menus, such as mayor's favorite menu, principal's favorite menu, etc. Illa Simpson, lunchroom manager from Brandon, Florida, uses a variety of public relation techniques with children and faculty members (1981). Her first project involves preparing pancakes in the kindergarten classroom. Ms. Simpson attends the first faculty meeting of the school year to inform the staff of her availability as a resource person. She also attends parent-teacher meetings, conducts father-child breakfasts and sponsors tasting parties. Her efforts to create a positive image have paid off in participation. In 1981, she had 75 percent participation at the beginning of the school year, but by the last few months 97 percent of the students were eating school lunch.

Coupons are being used in an Oakland, California, district (General Foods, 1982). The coupons are handled much like other store coupons. All are used on a la carte items and food costs are relatively low. School food service directors can also take advantage of manufacturers rebates on certain foods. Some districts have saved almost \$7,000 in one year in rebates.

Vending Machine Option

Machines satisfy numerous human needs and desires. Satisfaction of hunger can be achieved by operating a

food vending machine. Use of vending machines has created some concern about teaching one thing at school, then promoting the opposite. One illustrative case is teaching principles of good nutrition and dental health education, then providing vending machines with high caloric, low nutrient foods. Americans eat nearly two and one-half pounds of sugar per week and the consumption of soft drinks has doubled since 1960, displacing milk as the second most consumed beverage in the United States. Coffee remains the number one beverage (Hinkle, 1982). In 1976, the average person in the United States consumed 295 12-ounce cans of soft drinks. Baked goods are the second highest source of sugar. These high calorie, sugar-laden foods, available in the schools, are competing with the school lunch program by replacing more nutritious foods and by spoiling appetites for meals eaten at home. In addition, they promote unhealthy diet practices, which are established at an early age (Hinkle, 1982).

In 1977, the American Dietetic Association established a National Task Force for the Prohibition of the Sale of Confections in the Schools to study vending machine problems. The task force realized it would meet resistance from the students, parents, and especially vendor owners. The strategy the force enlisted was to

focus on 'confections,' meaning an item containing readily fermentable sugar high in calories and low in nutrition. The task force advocated the consumption of more nutritious foods such as fresh fruits and vegetables. Persuasion, reasoning, and campaigning to promote changes in eating styles was encouraged by the task force. Resistance to changing from low nutrient foods may evolve around the concern for the lost revenue. Replacement techniques for fund raisers were suggested by the task force (Hinkle, 1982).

Summary

History documents the fluctuation of the importance placed on the NSLP. Financial problems were a major obstacle during the 1980's. Schools incorporated salad bars, a la carte lines, outdoor barbecues, buffets, and other innovative techniques to maintain or achieve a successful school lunch program.

CHAPTER 3

Methods and Procedure

The purpose of the study was to document changes and adaptations which occurred in South Dakota School Lunch Programs following reduced federal funding. The study was conceived during the 1981 Summer School Food Service Certification Workshop when workshop participants expressed concern for the unstable future of the school lunch programs in South Dakota. Much of the concern was related to the reduction of federal aid to local schools districts' school lunch programs.

Population and Sample

The population for the study was composed of school food service workers in South Dakota. The sample used was the participants in the School Food Service Certification Workshop held June 13-18, 1982, on the campus of South Dakota State University, Brookings, South Dakota. The sample consisted of 152 participants responding to the survey. The sample included district supervisors, head cooks, assistant cooks, bakers, assistant bakers, and related food service positions. Seventy-two school districts in South Dakota were represented in

the sample out of a population of 196 districts participating in the NSLP in South Dakota (Levison, 1982). Use of this sample may be limited by the sample being composed of only active food service workers interested in furthering their nutrition knowledge through enrollment in the School Food Service Certification Workshop. However, in some cases the district required food service personnel to attend the Certification Workshop in order to receive an increase in salary. Geographically, school districts from all areas of the state were represented. Participants included school food service workers enrolled in all four years of the workshop. The curriculum of the workshop is designed to provide participants with a continuing education program on a progressive basis. Each food service worker receives a workshop certificate following successful completion of four years.

Instrumentation

The survey was adapted from a questionnaire used by the American School Food Service Association ("ASFSA Needs," 1982). Additional questions were designed by the author to determine what changes had occurred in school lunch programs following federal budget cuts. Areas of special concern included:

1. factors affecting student participation,

2. the relationship of cost of lunches to the type of lunches offered, including several entrees, salad bar, a la carte menus, etc.

3. types of food served and methods of service in school lunch programs,

4. relationship of personnel characteristics to success of school lunch programs.

The initial instrument was evaluated by a class of five graduate students in Home Economics, four faculty members from the Nutrition and Food Science Department at South Dakota State University, and the Brookings South Dakota, School Lunch Program Supervisor. Suggestions given by evaluators were implemented where feasible.

Data Collection and Analysis

The surveys were distributed to the entire sample by the School Lunch Certification Workshop staff and collected immediately after the participants completed the survey (Appendix A). Printed directions were read to all participants by the workshop staff preceding administration of the survey (Appendix B).

Chi Square, a nonparametric statistical test, was chosen as the appropriate analysis to use in the study because the research data in the study was in the form of frequency counts that were placed in two or more

categories. The actual responses were compared to the expected distribution of responses. The Chi Square test determines the significance of the relationship between two categories.

Hypotheses

The following null hypotheses were developed to be tested and evaluated.

1. There is no significant relationship between the participation rate and lunch cost to the senior high students.

2. There is no significant relationship between the participation rate and lunch cost to junior high students.

3. There is no significant relationship between the participation rate and lunch cost to elementary students.

4. There is no significant relationship between the number of lunches served and methods used to increase participation.

5. There is no significant relationship between number of lunches served and the cost of lunches.

6. There is no significant relationship between the number of methods used by school lunch personnel to cope with decreased funds and changes in lunch prices.

7. There is no significant relationship between the number of methods used by school lunch personnel to increase participation and change in participation in school lunch programs.

8. There is no significant relationship between the number of lunches served and changes in price and menus.

9. There is no significant relationship between the number of methods used by school lunch personnel to cope with decreased funds and the number of lunches served daily.

CHAPTER 4

Results and Discussion

The purpose of the study was to determine the changes made in school lunch programs in South Dakota as a result of decreased federal funding. This chapter presents and explains the results of the study, beginning with a background and description of the subjects. The survey of school food service workers was completed by 152 subjects, representing 72 school districts in South Dakota. All surveys were used in the analysis of the data, although not all participants answered every question.

Description of the Subjects

Various background information was collected from the 152 school food service workers. A summary of that information is located in Table 1. Most of the participants in the survey were either managers, cook-managers, bakers, or cooks working in a combined elementary-secondary school food service program serving over 500 noon meals per day. The Results of Food Service Survey (1972, p. 12) indicates that

smaller school districts tend to have a
larger percentage of pupils eating meals

Table 1

Description of Subjects

Characteristic	Subjects	
	Number ^a	Percent ^{b c}
Position Title		
Manager-cook/manager	57	37.5
Baker, cook, assistant cook	59	38.8
District supervisor or director	5	3.3
Other, general office, dishwasher	22	14.5
Combinations	9	5.9
Total	148	100.0
Meals Served at Noon		
Under 100	10	6.6
100 - 199	39	25.7
200 - 299	28	18.4
300 - 399	24	15.8
400 - 500	6	4.0
Over 500	45	29.6
Total	152	100.1
School Classification		
Public	134	91.8
Parochial	5	3.4
Private	7	4.8
Total	146	100.0
School Grades Fed		
Elementary only	18	12.3
Secondary only	10	6.8
Junior High only	6	4.1
Middle School only	2	1.4
Elementary & Secondary	111	75.5
Total	147	100.1

Table 1 - continued

Characteristic	Subjects	
	Number ^a	Percent ^{b c}
Number of Hours Worked per Day		
1 - 4 hours	6	4.0
5 - 6 hours	39	26.0
7 - 9 hours	105	70.0
Total	150	100.0
Sex		
Male	4	2.7
Female	145	97.3
Total	149	100.0
Age		
25 and under	3	2.0
26 - 35	16	10.8
36 - 45	57	38.5
46 - 55	52	35.1
Over 55	20	13.5
Total	148	99.9
Education		
8th grade or less	15	10.0
High school graduate	89	59.3
GED	17	11.3
Some college	23	15.3
College degree	4	2.7
Masters degree	2	1.3
Total	150	99.9
Years in School Food Service		
0 - 5 years	94	62.7
6 - 10 years	35	23.3
11 - 15 years	17	11.3
16 - 20 years	3	2.0
Over 20 years	1	0.7
Total	150	100.0

Table 1 - continued

Characteristic	Subjects	
	Number ^a	Percent ^{b c}
Member of Local SFSA		
Yes	64	44.4
No	80	55.6
Total	144	100.0
Does School Pay SFSA Dues		
Yes	18	15.4
No	99	84.6
Total	117	100.0

^a The N for each background characteristic variable does not equal the total N, 152, because some questions on the personal background portion were not applicable to all subjects and some subjects did not complete all items on the survey.

^b The percentage represents the portion of the total N for each background variable.

^c Total percents do not always equal 100 because of rounding.

at school, but despite this percentage, as might be expected, the larger districts prepare far more meals per day than do the smaller districts.

The high percentage of meals eaten in smaller districts may be related to rural settings, in which fewer students are able to return home for lunch, which would be very typical of districts in South Dakota. Survey results

reported by Perkins (1980) indicated that the average daily participation in school lunch increases with the percentage of bussed students and the percentage of students receiving free or reduced price meals.

An overwhelming proportion of the workers participating in the study were female. The ages of workers ranged from under 25 to over 55 with the largest number between 36 to 55 years of age. The educational level of subjects ranged from an 8th grade or less to a master's degree. The largest proportion of workers in the survey were high school graduates. In Perkins' (1980) research, teachers were extremely satisfied with the qualifications of school food service personnel. The range of work experience in school food service varied from zero years to over 20, with 62.7 percent working five years or less in the school food service.

South Dakota school food service workers are relatively involved in their School Food Service Association with over 44 percent of the sample employees belonging to the organization. The large percentage of members in South Dakota in the ASFA parallels the power of the organization at the national level. In 1981 and 1982, members were urged to participate in the memberships' letter and telephone campaigns to national legislators urging them to vote to continue funding for

school lunch programs (Applebaum, 1982b). Sample form letters printed in the September, 1981, and November-December, 1981, School Food Service Association Journal addressed to President Reagan and Agriculture Secretary, John R. Block urged them not to seek additional school lunch cuts. Only a small percentage (15.4) of the South Dakota schools paid the school food service employees' dues for the membership in the national association.

Methods to Increase Participation

The researcher investigated the relationship between methods used to cope with less federal aid by food service workers, methods used to increase participation, changes in participation, and changes in the price of meals. An open-end style of question on the survey enabled survey participants to list a variety of methods to increase student participation in the school lunch program. The responses were sorted into eight different categories by a group of six Nutrition and Food Science staff members at South Dakota State University, as well as the researcher. The categories selected were:

1. Meal planning and serving by other than school food service personnel,
2. Public relations and promotional techniques,
3. Menu variations and additions,

4. Serving best-liked menus,
5. Changes in noon hour,
6. Financial influences and low priced meals,
7. Other methods, and
8. Does not apply.

Table 2 indicates the responses from the South Dakota subjects in each of these categories.

Table 2
Frequency Distribution for Ways Used to
Increase Lunch Participation

Method of Increasing Participation	Yes	%	No	%
Meal Planning & Serving by Others	31	20.39	121	79.61
Public Relations & Promotion	35	23.03	117	76.97
Menu Variation & Additions	27	17.76	125	82.24
Best Liked Menus	22	14.47	130	85.53
Changes in Noon Hour	7	4.61	145	95.39
Financial Influences	5	3.29	147	96.71
Other	7	4.61	145	95.39

Meal Planning and Serving by Others

Generally South Dakota students participated in meal planning through Youth Advisory Councils (YAC) or Student Council representation. In some schools, elementary students planned a menu they liked with help in

serving from sixth and ninth grade girls. In some schools teachers were involved in promoting student input in menu planning. Perkins (1980) reports that teachers generally support student participation in menu planning because plate waste is reduced. Other districts ("Results of Food Service Survey," 1972) invited parents to eat in the school lunch program, then had them respond to a short questionnaire on the quality and quantity of the meal served. Suggestions received from the questionnaire were considered and implemented into the school lunch program where feasible. The main purpose of the parents eating at school was to encourage positive public relations.

Public Relations and Promotional Techniques

Advertising the weekly menu through the newspaper, school loudspeaker, posters, and radio was used extensively in the South Dakota schools. Food service directors in some schools sponsored tasting parties, special days for birthdays, and invited parents to eat in the school lunchroom. Surveys of students to determine food preferences were taken in a large number of schools. Special days promoted in South Dakota included Cowboys' Day, Principal's Favorite

Food Day, Holidays, and ethnic foods days. One supervisor set a table in the dining area filled with leftovers and extras for students eating school lunches to serve themselves. The students eating sack lunches from home saw what they were missing and many returned to eating in the school lunch program. Other techniques included 100 percent participation day, dressing up to correspond with the menu, such as Mexico Day, and menu writing contests. Contests were held in which classes vied for the largest percentage of members eating at school for a week. On Friday, the winning class received a special treat, such as a pudding pop or ice cream bar.

Menu Variations and Additions

School lunch programs in South Dakota used many of the same menu variations and additions used in other areas of the nation. The salad bar, chef salad, build-your-own sandwich, combo line, and a la carte lines were offered to students as an alternative to the regular line. Other schools varied the menu more, offered chocolate milk, and provided sack lunches for students leaving on school trips. Frances McGlone (General Foods, 1982) stated that salad and potato bars could be the salvation of the school lunch programs. South Dakota programs have also taken that approach. Wagner (1982) cites a la

carte and snack bar programs as common denominators for bringing in extra funds and for maintaining existing programs.

Serving Best Liked Menus

A large proportion of school food service workers in South Dakota simply stated that success in their program was attributable to serving foods best accepted by students, yet meeting the requirements for a nutritious Type A lunch.

Changes in Noon

A relatively small number of school food service personnel indicated time changes as a way of increasing student participation in the school lunch program. Closed or shortened noon hours, better scheduled time to eat and closing of the local store were methods used to attract a larger number of students to the lunch program. Perkins (1980) reports non-conclusive results on whether or not the length of the noon hour has an effect on the participation in the school lunch program.

Financial Influences

Few school food service workers attributed increases in student participation to cost alterations. Suggestions submitted by school service workers included

maintaining low cost meals, receiving seconds without additional cost and selling fewer lunches on one ticket as an incentive for occasional participants in the school lunch program to eat. As Meyer (1982) reports, New York residents and school officials promoted free and reduced price meals. South Dakota school food service directors also used this technique to increase program participation. In numerous South Dakota districts letters were sent home with all school children urging parents to apply for free or reduced meals.

Other methods

Techniques used to improve the lunchroom atmosphere were music, attractively garnished foods and use of lunchroom supervisors to keep noise level and activity low. Some schools reported generous portions and preparing tasty food as attracting students to the school lunch program.

Does Not Apply

Statements provided by survey participants which did not answer the question or did not fit into one of the seven categories were placed in the 'does not apply' category and were not used in the statistical analysis.

Techniques Used to Cope With Decreased Federal Funding

Six categories were developed in response to the ways used by school districts in 1981-1982 to help cope with less federal aid for school lunch. The responses were categorized by a group of six Nutrition and Food Science staff members at South Dakota State University, as well as the researcher. The categories selected were:

1. Menu alterations including substitutions, eliminations, or choices given for food,
2. Increase cost of meals to students,
3. Personnel changes or reduction of hours,
4. Increase use of commodities,
5. Other, including portion size, best liked foods, and
6. Does not apply.

Table 3 is a listing of the responses from the South Dakota subjects in each of these categories.

Menu Alterations

Menu alterations, substitutions, eliminations, or giving choices for foods were most often used by South Dakota school food service workers as methods for coping with less federal aid for school lunch. Many school food service workers made more food from scratch, used fewer convenience foods, and served fruit juice from

Table 3
Frequency Distribution for Techniques
Used to Cope with Decreased Funding

Method of Coping	Yes	%	No	%
Menu Alterations	24	15.79	128	84.21
Increase Cost to Students	15	9.87	137	90.13
Personnel Changes	21	13.82	131	86.18
Increased Use of Commodities	15	9.87	137	90.13
Other, Portion Size, etc.	12	7.89	140	92.11

canned fruits. Pizza, bread and rolls were listed as foods made from scratch. In the Results of Food Service Survey (1972), 15 percent of the food was convenience food, which agrees with the trend in South Dakota toward using a smaller amount of convenience foods. In South Dakota menus were revised, fewer desserts served, fewer extras, and no special treats for holidays were incorporated into the menu. Di Carlo (1982) recommends increased use of low cost recipes as a method of revising menus. Menu revision was used in several South Dakota school lunch programs. Portion size was reduced or limited in several South Dakota school lunch programs.

Increased Cost to Students

Raising the price of the Type A lunch was the most common cost increase method used in South Dakota. Several school lunch program directors began selling certain food items such as desserts, potatoes, and salads separately in an a la carte fashion. Fredrick (1977) maintains that cost does not affect teenage participation in a lunch program, stating instead that if the food is tasty and in sufficient quantity, the cost has little or no effect. However, that thesis is not substantiated by this study.

Personnel Changes

Twenty-one survey participants reported reductions in the number of school food workers, the number of hours worked, and hiring people willing to work. Use of student help increased. Di Carlo (1982) cites maximum productivity by school food service workers and effective personnel training as important factors in maintenance of the school lunch program. Changes in South Dakota school lunch personnel support Di Carlo's claim.

Increased Use of Commodities

Approximately ten percent of the school food service workers listed an increase in the use of commodities as a method for coping with less federal aid to

the school lunch program. School personnel not only increased the use of commodities, but found a variety of ways to use commodities and planned more menus around the use of commodities. Powdered non-fat dry milk and powdered eggs replaced fresh products. Goodman, C. (1981) maintains that schools will increase utilization of commodities as federal funding to school lunch programs is reduced.

Other Coping Methods

South Dakota school lunch programs incorporated several additional methods for coping with reduced funding. In one program mothers donated three days a year helping in the kitchen. In other programs money making activities were held to supplement reimbursement and lunch money. The elementary schools in some districts reduced portion size, still meeting school lunch program requirements.

Menu Changes as a Result of Decreased Federal Funding

A relatively small percentage of survey participants responded to the question, "Did your school lunch menus change as a result of decreased federal funding?" Changes noted were:

1. Substitutions or elimination of foods,
2. Increased use of commodities,

3. Decreased portion size, and
4. Other changes.

Most of the examples listed were duplications of methods used to cope with less federal aid.

Data Analysis

The Chi Square test was chosen as the appropriate nonparametric statistical technique for use in testing significance of the relationship between frequency distributions. Data were arranged into charts of frequencies, or contingency tables. The formula used for calculating chi square was:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Degrees of Freedom = (r - 1) (c - 1)

'O' is the observed (South Dakota school food service workers)

'E' is the expected (the row total times the column total, divided by the grand total),

'r' is the number of rows in the table, and

'c' is the number of columns (Mendenhall, 1979).

Because frequencies were minimal for some questions, collapsing of categories was necessary for validity of the Chi Square analysis. No less than five observations in any one cell is one condition which must be met before the Chi Square test is valid (Leabo, 1968).

Cells were combined if they were similar in nature.

In the question concerning the price of noon lunches and how they had changed in the past year, eight categories were collapsed into two, "increased in price" and "decreased in price". The question on change in participation rate was decreased from nine to two categories, "increased in percent" and "decreased in percent". The frequencies on the cost of school lunches for each grade level were combined into a wider range of prices. If the categories were not similar in nature, making the collapsing unadvisable, the results from analysis were deemed invalid and were not used in the reporting of the results.

Hypothesis One

There is no significant relationship between the participation rate and lunch cost to senior high students.

Table 4

Chi Square Analysis of Participation Changes and Price

Changes in Participation	Cost		Totals
	\$0.75 or less	\$0.76 to \$1.25	
No Change	8	13	21
Increased	1	12	13
Decreased	2	28	30
Totals	11	53	64
Degrees of Freedom	χ^2 9.605	Level of Significance 0.01	

The hypothesis was rejected because X^2 was significant at the 0.01 level. Participation in the school lunch program was lower in the higher priced meal category. This finding differs from Fredrick (1977), who contended that price of meals has very little effect on participation in school lunch programs among teenage students. Fredrick believes that teenagers will pay higher prices for meals if the food is of high quality and in sufficient quantity.

Hypothesis Two

There is no significant relationship between the participation rate and lunch cost to junior high students.

Table 5

Chi Square Analysis of Participation Changes and Price

Changes in Participation	Cost		Totals
	\$0.75 or less	\$0.76 to \$1.25	
No Change	5	5	10
Increased	1	10	11
Decreased	3	27	30
Totals	9	42	51
Degrees of Freedom	X^2 8.964	Level of Significance 0.05	

At the junior high school level the participation rate was lower for higher priced meals. Chi Square was significant at the 0.05 level. The hypothesis was rejected.

Hypothesis Three

There is no significant relationship between the participation rate and lunch cost to elementary students.

Table 6

Chi Square Analysis of Participation Changes and Price

Changes in Participation	Cost		Total
	\$0.75 or less	\$0.76 to \$1.25	
No Change	14	9	23
Increased	4	9	13
Decreased	12	20	32
Totals	30	38	68
Degrees of Freedom	χ^2 2	Level of Significance none	

There was no significant relationship between the price of elementary lunches and the participation rate. The hypothesis was not rejected. Results obtained in testing hypothesis three differed from the results of the previous findings on the relationship between the participation rate and lunch cost to junior and senior high school students. The only difference was the lunch

cost for different age groups. A relationship occurred in the junior high and senior high prices; however, no relationship between price and participation occurred at the elementary level.

Hypothesis Four

There is no significant relationship between the number of lunches served and number of methods used to increase participation.

Table 7

Chi Square Analysis of Meals Served and Number of Methods Used to Increase Participation

Number of Meals Served	<u>Methods Used to Increase Participation</u>			
	None	One	More than 1	Total
Less than 100	9	0	1	10
100 - 199	18	14	7	39
200 - 399	14	10	4	28
400 - 500	12	10	8	30
Over 500	11	17	17	45
Totals	64	51	37	152
Degrees of Freedom	X ² Level of Significance			
8	19.144		0.05	

As the number of meals served in the school lunch programs increased, so did the number of methods used to increase participation in the school lunch program. The

hypothesis was rejected. Chi Square was significant at the 0.05 level. In most cases it can be assumed that schools with large enrollments were those serving over 500 noon meals. However, information on school size was not obtained in this research and thus the assumption cannot be confirmed.

Hypothesis Five

There is no significant relationship between the number of lunches served and the cost of lunches.

Table 8

Chi Square Analysis of Price of Elementary Lunches Compared to the Number of Lunches Served

Number of Lunches Served	Price of Lunches			Total
	50¢ & Less	51¢-75¢	76¢-\$1	
199 & under	3	13	10	26
200 - 299	0	9	11	20
300 - 500	1	8	9	18
Over 500	2	3	19	24
Totals	6	33	49	88
Degrees of Freedom	Level of Significance			
6	none			

Table 9

Chi Square Analysis of Price of Senior High Lunches
Compared to Number of Lunches Served

Number of Lunches Served	Price of Lunches		Total
	\$0.75 or less	\$0.76-\$1.25	
199 & under	6	16	22
200 - 299	3	14	17
300 - 500	3	16	19
Over 500	3	20	23
Totals	15	66	81
Degrees of Freedom 3	χ^2 1.677	Level of Significance none	

There was no significant relationship between the price of elementary and senior high lunches and the number of lunches served. Thus, the hypothesis was not rejected. In "Results of Food Service Survey" (1982) the median cost of meals served was found to increase gradually as the size of the school increased. Cost was \$0.40 per meal in districts under 2,500 students and \$0.49 per meal in districts of 25,000 or more. South Dakota findings do not confirm the results of the 1972 survey.

Hypothesis Six

There is no significant relationship between the number of methods used by school lunch personnel to cope with decreased funds and changes in lunch prices.

Table 10

Chi Square Analysis of Number of Methods Used to Cope With Changes in Lunch Price

Change In Prices	Methods Used to Cope			Total
	None	One	More than One	
No Change	19	11	5	35
Increased	9	8	3	20
Decreased	15	12	14	41
Totals	43	31	22	96
Degrees of Freedom 4	χ^2 5.754		Level of Significance none	

There was no significant relationship between the number of methods used by school lunch personnel to cope with decreased funding and changes in lunch prices. Thus, the hypothesis could not be rejected. South Dakota findings differ from Wagner's (1982) which showed a trend in revenue collected from a la carte lines and snack bar programs helping to supplement federal subsidies and maintaining lower priced meals to students. Goodman C. (1981) reported an increase in use of commodity products through

processing contracts as a method of coping with reduced federal funding with no level of significance reported. South Dakota programs did show an increase in commodity use, but there was no significant relationship between number of methods used and lunch price.

Hypothesis Seven

There is no significant relationship between the number of methods used by school lunch personnel to increase participation and change in the participation in school lunch programs.

Table 11

Chi Square Analysis of Number of Methods Used to Increase Participation Rate and Change in Participation Rate

Change in Rate	<u>Methods Used to Increase Participation</u>			
	None	One	More Than One	Total
No Change	11	14	10	35
Increased	3	9	8	20
Decreased	13	15	13	41
Total	27	38	31	96
Degrees of Freedom	χ^2		Level of Significance	
4	2.313		none	

The hypothesis was not rejected since there was no significant relationship between the number of methods

used and change in participation in school lunch programs. The conclusion is that even though schools in South Dakota used techniques to increase participation, the techniques were not effective in obtaining the desired outcome. South Dakota programs differ from results across the nation. Eastman (1982) reports on Upside Down Day as increasing overall participation, although no test for significance was reported. An Osceola, Indiana, district reports salad and potato bars "mean a decrease in plate waste and an increase in eating satisfaction and participation ("Flexibility and Cooperation," 1982, p. 42)." The study showed that although South Dakota school lunch directors tried a variety of methods to increase participation, much like school lunch directors across the nation, the participation rate did not significantly change.

Hypothesis Eight

There is no significant relationship between the number of lunches served and the change in price and menus.

Table 12

Chi Square Analysis of Changes in Menus
and Number of Lunches Served

Lunches Served	Changes in Menus			Total
	None	Substitutions	Other	
Under 100	6	1	2	9
100 - 199	15	5	7	27
200 - 399	17	3	2	22
400 - 500	17	1	7	25
Over 500	20	7	7	34
Total	75	17	25	117
Degrees of Freedom	8	χ^2 6.608	Level of Significance none	

Table 13

Chi Square Analysis of Menu Changes
and Price of Lunch to Students

Price Changes	No Change	Changes Made	Totals
No Change	19	5	24
Decreased	1	0	1
Increased	36	12	48
Totals	56	17	73
Degrees of Freedom	2	χ^2 0.484	Level of Significance none

The hypothesis was not rejected because there was

no significant relationship between the number of lunches served and the change in price and menus served. School lunch prices increase if no menu changes were made, with fewer programs increasing prices if menu changes were made. However, this represents only a trend with no level of significance reported in the Chi Square analysis.

Hypothesis Nine

There is no significant relationship between the number of methods used by school lunch personnel to cope with decreased funds and the number of lunches served daily.

Table 14

Chi Square Analysis of Number of Methods Used to Cope
With Decreased Funds and Number of Meals Served

Number of Meals Served	Methods Used to Cope			Total
	None	One	More Than One	
199 and under	29	11	9	49
200 - 399	18	7	3	28
400 - 500	17	11	2	30
Over 500	26	9	10	45
Totals	90	38	24	152
Degrees of Freedom	χ^2			Level of Significance
6	5.804			none

Hypothesis nine was not rejected because there was no significant relationship between the number of methods used to cope with decreased funding and the number of

lunches served daily. No consistent direction was noted as school food service workers serving the least and the most number of meals both used approximately the same number of methods to cope with decreased funding.

CHAPTER 5

Summary, Implications, Recommendations

The purpose of the study was to document changes and adaptations occurring in school lunch programs in South Dakota following reduced federal funding to the school lunch programs. The sample was composed of 152 participants in the school food service certification workshop held in June, 1982, at South Dakota State University, Brookings, South Dakota. The survey used was adapted and expanded from a survey taken from the School Food Service Journal, January, 1982. Chi Square analysis was used to determine whether frequency distributions differed significantly from each other.

Although changes and adaptations made in school lunch programs in South Dakota made no significant difference in the participation rate, or theoretically, the potential success or failure of the school lunch program, a number of independent variables were involved in every school district that were not obtained by use of this survey. The variables which differed in every district may have been involved in the changes and adaptations made in the school lunch programs. The adjustments made

in school lunch programs were not in themselves the single most important factor in the successful outcome of the school lunch program. The quality and quantity of changes and adaptations had more effect on the total school lunch program concept.

Recommendations

Although the Reconciliation Act of 1981 drastically reduced funding to the National School Lunch Program participants, one positive effect was that school lunch administrators and community members banded together to demonstrate support for the school lunch program. The public, as a result, developed a keener awareness for the important role of the NSLP in reducing the number of mal-nourished children in the nation.

Goodman, C. (1981) reports that the trend of the 1980's is to promote the private sector assuming the responsibility for feeding school children lunch. If this sentiment continues to gain momentum, the need for parental involvement becomes even more important in assuring that nutritious, safe meals are being prepared that will promote healthy, active, and well-nourished children. If the NSLP is to continue, supporters of the program need to promote and defend it when the opportunity presents itself. By encouraging school lunch personnel to

join professional organizations, enroll in continuing education classes, and promote the NSLP within the school, the local school lunch programs' chances of survival are excellent, providing current resources are maintained.

Martin (1975) suggests the school principal has the single greatest effect upon student participation in the lunch programs at school. Future studies could document the attitudes of South Dakota principals in relation to the success of the school lunch program. Future research could continue to study changes which have occurred in the 1982-83 school lunch programs in South Dakota.

Funding reimbursement to the paying child increased \$0.005 from September 1981 to September 1982 (Davis, 1982). A change in priorities in school lunch programs may be a result of this slight monetary recovery. Additional research is recommended to study the trends of school lunch programs in South Dakota following the drastic funding reductions of the Reconciliation Act of 1981. Additional studies on parental involvement in the school lunch program and the effectiveness of other methods used to maintain or increase the participation rate are recommended.

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APPENDIX A

SCHOOL FOOD SERVICE SURVEY

INSTRUCTIONS: Place a check (✓) by the correct answer. Check only one answer for all questions unless otherwise indicated.

GENERAL INFORMATION

1. Position title:

- ☐ a. Manager or Cook/Manager
- ☐ b. Baker or cook
- ☐ c. District Supervisor or Director
- ☐ d. Other: Please list _____

2. Average number of meals served at noon per day including school employees:

- ☐ a. Under 100
- ☐ b. 100-199
- ☐ c. 200-299
- ☐ d. 300-399
- ☐ e. 400-500
- ☐ f. more than 500

3. School Classification:

- ☐ a. Public
- ☐ b. Parochial (Church supported)
- ☐ c. Private

4. School grades fed:

- ☐ a. Elementary only
- ☐ b. Secondary School only
- ☐ c. Junior High only
- ☐ d. Middle School only
- ☐ e. Combined Elementary & Secondary

5. Number of hours worked per day:

- ☐ a. 1-4
- ☐ b. 5-6
- ☐ c. 7-9

6. Sex:

- ☐ a. Male
☐ b. Female

7. Age:

- ☐ a. 25 and under
☐ b. 26-35
☐ c. 36-45
☐ d. 46-55
☐ e. Over 55

8. Education (Check highest level completed):

- ☐ a. 8th grade Graduate or less
☐ b. High School Graduate
☐ c. GED Certificate
☐ d. Some College
☐ e. College Degree
☐ f. Masters Degree
☐ g. Doctorate Degree

9. Total years in school food service:

- ☐ a. 0-5 years
☐ b. 6-10 years
☐ c. 11-15 years
☐ d. 16-20 years
☐ e. Over 20 years

10. Are you a member of your local school food service association?

- ☐ a. Yes
☐ b. No

11. Does your school district pay dues for membership in a professional Association?

- ☐ a. Yes
☐ b. No

LUNCH PROGRAM INFORMATION

12. Would you rather receive:

- ☐ a. Cash in place of commodities
☐ b. Commodities in place of cash
☐ c. Does not matter--either is fine

13. Other than noon lunch, in what programs does your school district participate? (Check all that apply)

- ☐ a. Breakfast Program
☐ b. Head Start Program
☐ c. Elderly Feeding Program
☐ d. Other: Please list _____

14. List what each of the following age groups paid for noon lunch during 1981-82 at your school:

- ☐ a. Elementary
☐ b. Senior High School
☐ c. Middle School
☐ d. Junior High
☐ e. Teachers/Adults

15. List some ways used in your district to increase student participation in the school lunch program at noon.

16. List some ways used by your school district in 1981-82 to help cope with less federal aid for school lunch.

17. Did your school lunch menus change as a result of decreased federal funding? ____ Yes ____ No If yes, list some of the changes:

18. In column 'A' check all the ways used in your school lunch program to encourage student participation. Rate each way used by checking the appropriate space on the right hand side of the page.

'A'	Worked great	Worked okay	Disaster
___ a. Al a carte			
___ b. Combo sandwich line .			
___ c. Salad bar			
___ d. Outdoor barbeques . .			
___ e. Picnics			
___ f. Ethnic food menus . .			
___ g. Sack lunches			
___ h. Other: Please list:			

19. Has the price of noon lunches to students changed in your district the past year? ____ If yes, please check how the price has changed and the amount of change:
- ___ a. Price increased to students _____ amount of change
- ___ b. Price decreased to students _____ amount of change
20. Was there a change in participation rate in your district in noon school lunches during the past year? ____ If yes, how did it change and how much did it change?
- ___ a. Student participation increased _____ percent
- ___ b. Student participation decreased _____ percent

APPENDIX B

WORKSHOP STAFF:

Please read the following instructions to the workshop participants before distributing the survey. Collect the survey when the cooks are finished and place all surveys in this packet. THANKS!

INSTRUCTIONS:

This is a short survey written to find out what changes have taken place in school lunch programs as a result of reduced federal aid.

1. Please do not put your name or the name of your school on the survey.
2. Try to answer as accurately as possible, however, if you have no idea, please leave that question blank.
3. When a question asks for you to "list" items . . . please list as many as possible.

If you would like a copy of the results of this survey, write your name and address on a separate sheet of paper and return along with the survey. I will mail you the results as soon as they are compiled.

Thank you for cooperating in this project!!

Verdell Beste

APPENDIX C

FOR SCHOOL USE ONLY

Total Income \$ _____	Total Household Size _____	Denied <input style="width: 50px;" type="checkbox"/>
Monthly <input style="width: 50px;" type="checkbox"/>	Approved Free <input style="width: 50px;" type="checkbox"/>	Income Over Guidelines <input style="width: 50px;" type="checkbox"/>
Yearly <input style="width: 50px;" type="checkbox"/>	Approved Reduced <input style="width: 50px;" type="checkbox"/>	Incomplete Application <input style="width: 50px;" type="checkbox"/>

ATTACHMENT X

APPLICATION FOR FREE OR REDUCED PRICE SCHOOL MEALS

INSTRUCTIONS: To apply for free or reduced price meals for your children, you must return a completed and signed application to the school office. If you need help with the form, please contact the school.

FOSTER CHILDREN: In certain cases foster children are eligible for free or reduced price meals regardless of your household income. If you have such children living with you, please fill out the appropriate section on this form.

I. HOUSEHOLD MEMBERS: List all related and unrelated people who are living in your household.

A. CHILDREN FOR WHOM APPLICATION IS MADE: List names, schools, and grades.

NAME (Last, first)	SCHOOL	GRADE	FOSTER CHILD
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

B. OTHER CHILDREN: List the name of all other children under 21 years of age living in your household.

NAME (Last, first)	AGE	NAME (Last, first)	AGE
1. _____	_____	4. _____	_____
2. _____	_____	5. _____	_____
3. _____	_____	6. _____	_____

- C. ADULTS: List all persons 21 years of age or older who are living in your household. Be sure to include yourself. If someone does not have a social security number, write none next to their name.

NAME (Last, first)	SOCIAL SECURITY NUMBER
1.	
2.	
3.	
4.	

- D. TOTAL NUMBER OF HOUSEHOLD MEMBERS: _____ (Add all persons listed in A,B, and C).

SOCIAL SECURITY NUMBERS: "Section 9 of the National School Lunch Act requires that in order for your child to be eligible for free or reduced price meals, you must provide the social security numbers of all adult members of your household. Provision of these social security numbers is not mandatory, but failure to provide the numbers will result in denial of the application for free or reduced price benefits. This notice must be brought to the attention of all household members whose social security numbers are disclosed. The social security numbers may be used to identify household members in carrying out efforts to verify the correctness of information stated on the application. These verification efforts may be carried out through program reviews, audits, and investigations and may include contacting employers to determine income, contacting the state employment security office to determine the amount of benefits received and checking the documentation produced by household members to prove the amount of income received. These efforts may result in a loss or reduction of benefits, administrative claims, or legal actions if incorrect information is reported."

- II. INCOME: You need the following facts to fill in your income information below.

CURRENT INCOME: We need the income received by all members of your household last month to figure your income for this year. But, if you have household members for whom last month's income was much higher or lower than usual, please list that person's expected income for this year (11 months starting from last month). For example, self-employed people like farmers and migrant workers should list yearly income.

TYPES OF INCOME: Include money received from welfare, unemployment, child support, alimony, strike benefits, social security, pensions, retirement and disability payments; earnings from self-employment (including farming), salary, wages and commissions, and other cash income received or withdrawn from any source which is available for payment of a child's meal.
DO NOT INCLUDE FOOD STAMP BENEFITS.

- A. INCOME: List the total income received by all household members by type as shown in the example, before such deductions as taxes and social security. For each type of income, show the amount received and how often it is received.

Income Source	Total per Month	Income Source	Total per Month
Wages, Salary	\$	Alimony, Child Support	\$
Social Security	\$	Retirement, Pension	\$
Welfare, Public Assistance	\$	Other (please indicate)	\$
Unemployment	\$	Other (please indicate)	\$

- B. FILL IN ONE OF THESE: Total Monthly Household Income \$ _____
OR Total Yearly Household Income \$ _____

III. SIGNATURE: I certify that all of the above information is true and correct and that all income is reported. I understand that this information is being given for the receipt of federal funds; that school officials may verify the information on the application; and the deliberate misrepresentation of the information may subject me to prosecution under applicable State and Federal laws.

SIGNATURE OF ADULT HOUSEHOLD MEMBER

DATE

PRINT NAME

TELEPHONE DURING THE DAY